

PROJECT TITLE : TOBACCO STUDIES
PERIOD COVERED : MAY 25 - JUNE 17 1981
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TOBACCO LOT ANALYSES

Introduction of Inputs on EDP

Partial analytical results of thirty-five lots were introduced in the PME Analytical Data List.

Lots under Evaluation

Fifty-six lots.

Lots available, but not yet analysed

Fifty lots.

Special Lots

We have received two samples of Lot 8305 (Paraguay tobacco) fermented differently. The analyses are under way.

ASSISTANCE TO OTHER PROJECTS

PROTAGORAS

We have received two samples of treated SPOTLESS blends (Nos 3 and 4). The analyses are under way.

SAVOURY

Seven reference cigarettes were made with five different BUR lots that were cased and cut in the primary; two of them were also cut in the primary but uncased. The analytical results will be useful for the smoke yield prediction study. The analyses are under way.

MISCELLANEOUS

Pakistan tobacco samples

We have received twenty samples of Pakistan tobaccos. These were agricultural trials. The tobacco and pesticide analyses are under way.

EVON

The comparison of expanded tobaccos ex Onnens and ex US shows:

1) For the ET-FC blend ex Onnens (see Table 1)

- a lower TA level (-66%)
- a lower $\text{NO}_3\text{-N}$ level
- a higher RS level (+54%).

Per cigarette:

- a lower NO delivery
- a lower SN delivery (-64%)
- a higher aldehydes delivery (+13%).

Per gram of burnt tobacco:

- a lower NO delivery
- a lower SN delivery (-52%)
- a higher aldehydes delivery (+19%).

2) For the ET-CH blend (see Table 2) no significant differences were found between the US expanded CH tobacco blend and the CH blend expanded in Onnens.

3) For the ET-BU blend (see Table 3)

- a lower $\text{NO}_3\text{-N}$ level
- a lower TA level

Per cigarette:

- a lower NO delivery
- a lower SN delivery

Per gram of burnt tobacco:

- a lower NO delivery
- a lower SN delivery.

TABLE 1

Comparison of the ET-FC ex Onnens and ex US

ET-FC	Lot 0707 ex Onnens	Lot 6783 ex US	Comments
Tobacco weight (mg/cig)	444	479	
RTD (mm H ₂ O)	150	164	
Firmness (mm)	3.83 at 11.3% m.c.	2.57 at 11.5% m.c.	
Cylinder volume (ml/10g)	73.1 at 10.0% m.c.	74.3 at 10.1% m.c.	
TA (%)	1.36	2.26	-66%
RS (%)	15.1	7.0	+54%
NO ₃ -N (%)	0.00	0.09	
<u>Smoke Analyses</u>			
CO (mg/cig)	12.5 (32.1)	10.3 (24.6)	
NO (mg/cig)	0.03 (0.08)	0.08 (0.19)	
DPM (mg/cig)	11.8 (30.3)	12.3 (29.3)	
SN (mg/cig)	0.55 (1.41)	0.90 (2.15)	-64% (-52%)
Puff count (puff/cig)	5.7 (14.7)	6.0 (14.3)	
HCN (µg/cig)	204 (525)	1.93 (460)	
Aldehydes (mg/cig)	1.24 (3.19)	1.08 (2.57)	+13% (+19%)

The values in parentheses are calculated per gram of burnt tobacco.

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It must be noted that the comparison between the different lots is difficult, due to the different RTD encountered.

SMOKE YIELD PREDICTION

A progress report has been written.

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TABLE 2

Comparison of the ET-CH ex Onnens and ex US

ET-CH	0803 ex Onnens	Lot 6666 ex US
Tobacco weight (mg/cig)	393	434
RTD (mm H ₂ O)	175	173
Firmness (mm)	2.53 at 10.4% m.c.	2.51 at 11.0% m.c.
Cylinder volume (ml/10g)	100 at 9.2% m.c.	87.8 at 9.4% m.c.
TA (%)	0.74	0.79
RS (%)	1.0	0.0
NO ₃ -N (%)	0.30	0.34

Smoke Analyses

CO (mg/cig)	12.0 (34.9)	13.2 (34.7)
NO (mg/cig)	0.29 (0.84)	0.33 (0.87)
DPM (mg/cig)	11.2 (32.5)	12.3 (32.4)
SN ^a (mg/cig)	0.34 (0.99)	0.38 (1.00)
Puff count (puff/cig)	4.7 (13.7)	5.0 (13.2)
HCN (µg/cig)	240 (697)	210 (553)
Aldehydes (mg/cig)	1.20 (3.49)	1.32 (3.47)

The values in parentheses are calculated per gram of burnt tobacco.

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TABLE 3

Comparison of the ET-BU ex Onnens and ex US

ET-BU	Lot 0900 ex Onnens	Lot 6276 ex US	Comments
Tobacco weight (mg/cig)	414	434	
RTD (mm H ₂ O)	184	168	
Firmness (mm)	2.17 at 11.0% m.c.	2.15 at 11.5% m.c.	
Cylinder volume (ml/10g)	112.5 at 9.8% m.c.	89.1 at 10.9% m.c.	
TA (%)	1.85	2.38	-29%
RS (%)	1.1	1.6	
NO ₃ -N (%)	0.47	0.57	-21%
<u>Smoke Analyses</u>			
CO (mg/cig)	12.0 (33.1)	12.8 (33.7)	
NO (mg/cig)	0.26 (0.72)	0.40 (1.05)	-58% (-46%)
DPM (mg/cig)	9.1 (25.1)	9.4 (24.7)	
SN (mg/cig)	0.47 (1.30)	0.77 (2.03)	-64% (-56%)
Puff count (puff/cig)	4.7 (13.0)	4.9 (12.9)	
HCN (μg/cig)	189 (521)	175 (460)	
Aldehydes (mg/cig)	0.96 (2.65)	0.99 (2.60)	

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